CLAIMS

1. Droplet deposition apparatus comprising an inlet manifold, an outlet manifold and a fluid chamber in communication with at least one droplet deposition orifice, said fluid chamber being separated from at least one of said manifolds by a porous element and there being in use of the apparatus a flow of fluid between said inlet manifold and said outlet manifold through said chamber, wherein the pressure drop across the porous element is the dominant pressure drop in said flow.

2. Apparatus according to Claim 1, wherein said fluid chamber is separated from said inlet manifold by a porous element and is separated from said outlet manifold by the same or a different porous element.

3. Apparatus according to Claim 1 or Claim 2, wherein a plurality of orifices arranged as an elongate array, communicate with said fluid chamber.

4. Apparatus according to Claim 3, wherein either or both of said inlet and outlet manifolds extend parallel to said elongate array.

5. Apparatus according to any one of the preceding claims, further comprising an array of ejection chambers within said fluid chamber, each ejection chamber communicating with a respective orifice.

6. Apparatus according to Claim 5, wherein said fluid chamber is divided into an inlet chamber and an outlet chamber by said array of ejection chambers, there being a flow of fluid between said inlet and said outlet chamber in parallel through said ejection chambers.

7. Apparatus according to Claim 6, wherein each said orifice communicates with the respective ejection chamber mid way along that ejection chamber.

8. Apparatus according to any one of the preceding claims, wherein said porous element is flat.

9. Apparatus according to any one of the preceding claims, wherein said porous element comprises a planar sheet of porous material, both said inlet and said outlet manifold lying on one side of the sheet and the fluid chamber lying on the other side of the sheet.

10. Apparatus according to any one of Claims 1 to 8, wherein said porous element is tubular.

11. Apparatus according to any one of Claim 8 to Claim 10, wherein said porous element is a sintered material

12. Apparatus according to any one of Claim 8 to Claim 10, wherein said porous element is a mesh.

13. Apparatus according to any one of Claim 1 to Claim 12, wherein a Wheatstone bridge arrangement is provided for controlling pressure at the orifice.

14. Droplet deposition apparatus comprising an array of ejection chambers spaced in an array direction, each communicating with a droplet ejection orifice; at least one plenum chamber extending in the array direction and communicating with each of the ejection chambers; and an inlet manifold extending in the array direction and communicating with the plenum chamber through an element providing a resistance to a fluid; there being, in use, a flow of fluid from the inlet manifold through the plenum chamber to the ejection chambers, there being a substantial net flow in the array direction in the inlet manifold, and substantially no net flow in the array direction in the plenum chamber.

15. Apparatus according to Claim 14, further comprising an outlet manifold extending in the array direction and communicating with the same or a different plenum chamber through the same or a different element providing a resistance to a fluid.

16. Apparatus according to Claim 15, there being in use flow of fluid from the inlet manifold through an inlet plenum chamber, through the ejection chambers, through an outlet plenum chamber to the outlet manifold, there being a substantial net flow in the array direction in both the inlet and the outlet manifold, and substantially no net flow in the array direction in either the inlet or the outlet plenum chamber.

17. Apparatus according to Claim 16, further comprising pressure control means communicating with the plenum chambers for controlling the pressure at said orifice.

18. Apparatus according to Claim 17, wherein the pressure control means comprises a pair of fluid resistances connected in series with the mid point of said

resistance being connected with a controllable pressure source.

19. Apparatus according to any one of Claims 14 to 18, wherein said element is formed of porous material and extends in the array direction.

20. Apparatus according to Claim 18, wherein the porosity of said element varies in the array direction.

21. A method of supplying a fluid to an orifice of a droplet deposition apparatus having a line of orifices and an ink supply manifold extending parallel to said line of orifices, said method comprising the steps of: supplying ink in said manifold flowing substantially parallel to said line of orifices and in a volume in excess of that which may be ejected from the orifices, and causing said ink to flow through at least one restrictive element and into a plenum chamber wherein the flow of fluid within said plenum chamber is substantially orthogonal to said line of orifices.

22. A method according to Claim 21 wherein the pressure of the fluid in the plenum chamber is controlled via a port opening into said plenum chamber.

23. A method according to Claim 21 or Claim 22, further comprising the step of causing the fluid in excess of that ejected from the orifices to flow through from the plenum chamber through a porous element into an outlet manifold.

24. A method according to Claim 22, wherein ejection channels communicate within said plenum chamber, said fluid flowing in parallel through said ejection channels.

25. Printing apparatus comprising a printhead which is scanned in use, the printhead comprising array of ejection chambers spaced in an array direction, each communicating with an ink orifice; an inlet plenum chamber communicating with each of the ejection chambers; an inlet manifold extending in the array direction and communicating with the inlet plenum chamber through a porous element; an outlet plenum chamber communicating with each of the ejection chambers; an outlet manifold extending in the array direction and communicating with the outlet plenum chamber through the same or a different porous element there being, in use, a flow of fluid through each ejection chambers, there being a substantial net flow in the array direction in the inlet and the outlet manifold, and substantially no net flow in the array direction in the inlet or outlet plenum chamber.

26. Apparatus according to Claim 25, further comprising pressure control means communicating with the plenum chambers for controlling the pressure at said orifice.

27. Apparatus according to Claim 26, wherein the pressure control means comprises a pair of fluid resistances connected in series with the mid point of said resistance being connected with a controllable pressure source.

28. Apparatus according to any one of Claims 25 to 27, comprising a first ink pump connected between the inlet and outlet manifolds and a second ink pump connected between the inlet and outlet plenum chambers.

29. Apparatus according to Claim 28, wherein at least one of said pumps is carried on the printhead.